

L. A. BROOKS.

STOVE

116927

PATENTED JUL 11 1871

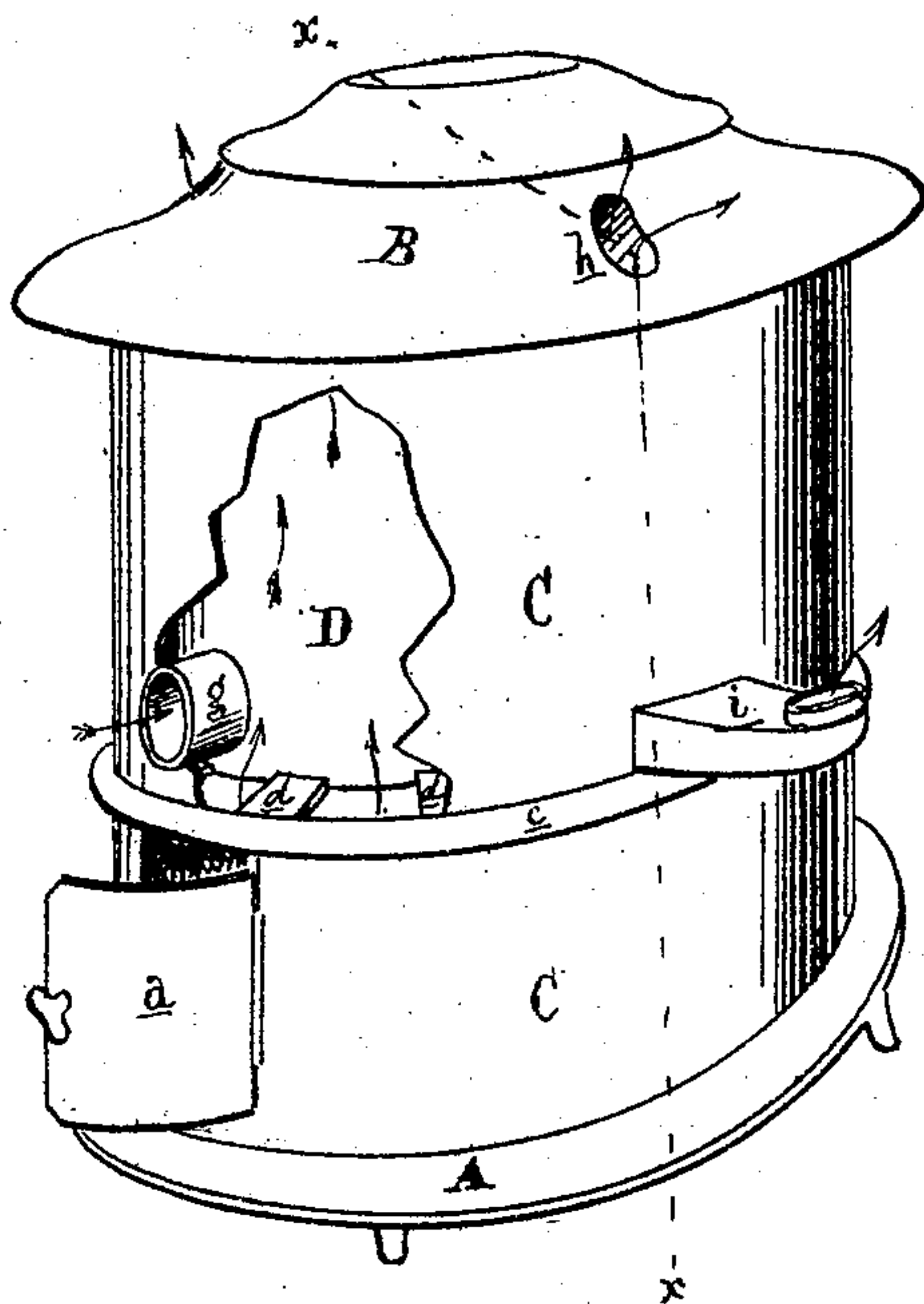


Fig. 1.

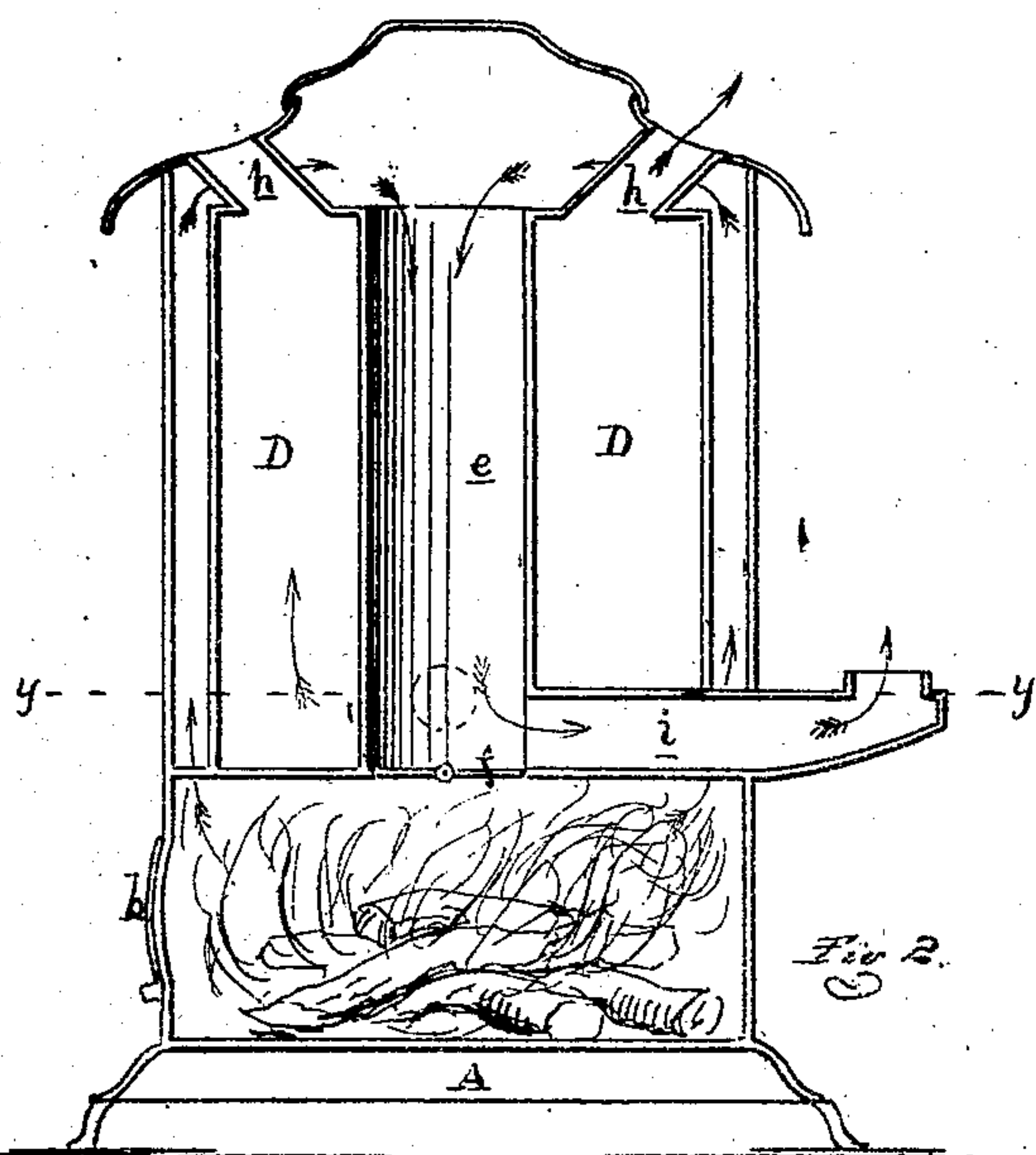


Fig. 2.

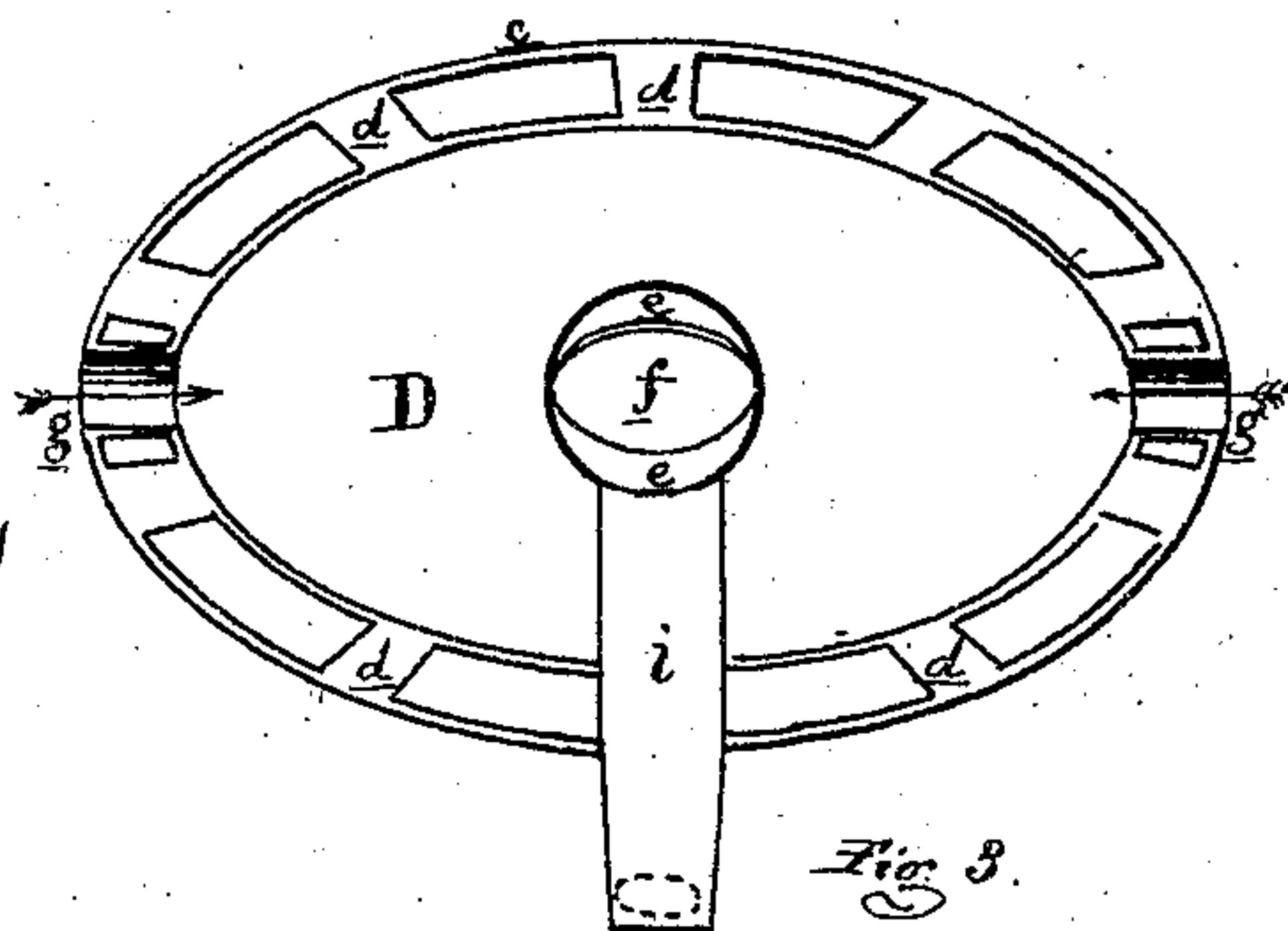


Fig. 3.

ATTEST

Wm. H. Schuch.
H. F. Everts.

INVENTOR

L. A. Brooks
per Atty
Thos. S. Sprague

UNITED STATES PATENT OFFICE.

LORIN A. BROOKS, OF LA PORTE, INDIANA.

IMPROVEMENT IN HEATING-STOVES.

Specification forming part of Letters Patent No. 116,927, dated July 11, 1871.

To all whom it may concern:

Be it known that I, LORIN A. BROOKS, of La Porte, in the county of La Porte and State of Indiana, have invented a new and useful Improvement in Heating-Stoves; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon, and being a part of this specification, in which—

Figure 1 is a perspective view of my stove, with the shell partially broken away. Fig. 2 is a vertical section on the line *x x* in Fig. 1; and Fig. 3 is a horizontal section taken on the line *y y* in Fig. 2.

Like letters indicate like parts in each figure.

The nature of this invention relates to the construction of a wood-burning heating-stove in such a manner as to obtain in a limited space a large amount of radiating-surface, and so arranged as to economize the fuel. It consists in the arrangement, within the shell of an ordinary sheet-iron stove, of a radiating-chamber, having an internal flue and suitable air-pipes, so that the heated products of combustion first pass up between the outer walls of the radiator and the shell of the stove, and thence down to the bottom of said flue to the exit leading therefrom, so that the air-currents passing through the radiator will be warmed, while heat is radiated from the external shell in the usual manner.

In the drawing, A represents the cast-iron base of my stove; B, the top; and C, a sheet-metal shell, of any desired form and size. *a* is a door for the introduction of wood or similar fuel, and *b* a draught-register in the lower front part of the shell. For convenience in construction the shell is made in two parts, joined together by an encircling flanged-rim plate, *c*, but, if desired, the sheets may be riveted together. D is a radiating-chamber, having the same form but smaller than the shell C, supported therein by lugs *d* projecting from the periphery of its bottom

plate and resting upon the rim-plate *c*, or by any equivalent means. In the center of the chamber is a vertical flue, *e*, closed at the bottom by a damper, *f*. The space below the radiating-chamber in the shell is the combustion-chamber. In the transverse diameter of the stove are air-pipes *g*, which enter the radiating-chamber near the bottom. *h* are hot-air pipes issuing from the top plate of the radiating-chamber, in its conjugate diameter through the top plate B of the stove. *i* is a smoke-duct leading from the bottom of the flue *e* to the exterior of the stove, and is there provided with a collar to receive the smoke-pipe leading to the chimney.

The damper *f* being turned to close the flue the products of combustion pass between the exterior wall of the radiating-chamber and the shell of the stove to the top, and thence down to the bottom of the flue and out through the smoke-duct. Externally a portion of their heat is radiated into the apartment through the shell, and the balance is absorbed by the walls of the radiator to heat the currents of air rising through it, which are discharged through the pipes *h*. The large area of the radiating-surface presented to the action of the fuel in combustion prevents all evil effects from overheating, insuring at the same time the utmost economy of fuel.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The arrangement, within a heating-stove, of the radiating-chamber D, flue *e*, damper *f*, air-pipes *g h*, and smoke-duct *i*, as and for the purpose set forth.

2. The construction and arrangement of the base A, top B, shell C, radiating-chamber D, damper *f*, air-pipes *g h*, and smoke-duct *i*, substantially as herein described and for the purpose specified.

LORIN A. BROOKS.

Witnesses:

HARRY S. SPRAGUE,
B. M. MALLORY.